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ABSTRACT

This analysis looks at the effects of changes in school district size on the district budget. Specifically, budgetary changes reflecting the relative emphasis on instruction are analyzed. Proportional budget allocations are used to represent the relative investment of resources in functions or activities of school districts. Resource allocation patterns of Michigan school districts are examined and compared under both growth and decline in enrollment. The paper looks at three approaches to organizational change: organismic or structural theories, strategic decision-making theories, and routine decision-making theories. Patterns of change in budgetary allocations are used to assess the appropriateness of these approaches for describing the budgetary decisions in growing and declining school districts. Foremost is the question of whether decline is the mirror image of growth. Researchers discovered that both districts with declining enrollment and those with growing enrollment are decreasing proportional allocations to instruction and increasing nondiscretionary expenditures, especially for plant maintenance. The paper concludes that although the changes in school district budgetary allocation under either growth or decline are not completely consistent with any of the three approaches examined, they appear to be most consistent with theories of strategic decision-making. (Author/JM)

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BUDGETARY DECISIONS IN SCHOOL DISTRICTS EXPERIENCING GROWTH AND DECLINE IN ENROLLMENT

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STATEMENT OF THE PROBLEM:

During previous decades, school enrollments expanded at a tremendous rate. Recently, a combination of prevailing migration patterns and differential fertility rates have resulted in decreased enrollments which are not evenly distributed either between school districts or between grade levels. The historical prevalence of growth and expansion, coupled with an implicit assumption that decline is the mirror image of growth resulted in a dearth of investigations of contraction.

The primary objective of this analysis is to uncover and explain change and the absence of change in the relative budgetary emphasis on instruction in school districts coping with changes in size. Proportional budget allocations are used to represent the relative investment of resources in functions or activities of school districts. Resource allocation patterns of school districts are examined and compared under the alternative conditions of growth and decline in enrollment.

Patterns of change in budgetary allocations are used to assess the appropriateness of three approaches to organizational change for describing the budgetary decisions in growing and declining school districts. Foremost is the question of whether decline is the mirror image of growth.

The constraint of a balanced budget requires that at some level all budget items must be considered simultaneously.[1] This implies that ultimately, a change in one account results in changes in other account categories. The budget in relative terms is a zero-sum proposition. It is assumed that if school districts are maintaining relatively constant budgetary emphasis on a specific activity or function, the allocation will

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[1] John P. Crecine, Governmental Problem Solving, American Politics Research Series (Chicago: Rand McNally & Company, 1969): p. 185.

change at a rate similar to that of total district operating expenditures. As a consequence of comparable rates of change, it is further assumed that the proportional allocation to that function or activity will remain constant if school districts are maintaining the same relative emphasis on it. School districts deviating from past patterns of budget allocations are considered to exhibit change in the relative budgetary emphasis on various functions.

Instruction is the technical function or task of school districts. Examining the patterns of change in the proportional allocation to instruction relative to non-instructional budget items is a mechanism for exploring stability versus change in the emphasis placed on the technical level of responsibility and control of school districts[1] and thus in their structure.

Growth versus decline. It is expected that growing school districts will differ from declining school districts in terms of whether they change from past resource allocation patterns, the budget items which change, and the amount and direction of change. These conditions differ with respect to the ability to employ learned behaviors, the need to search for a defensible rationale, the number and types of options available, and the constraints within which decisions are made.

Most school districts through previously coping with expansion and growth have developed modes of dealing with it. Decline, however, is a new situation for most school districts, so they lack the experience and decision rules for dealing with it. Additionally, expanding school districts are not forced to deal with the same multitude of unfulfilled expectations. School districts will generally have a broader spectrum of options in

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[1]James A. Thompson, Organizations in Action (New York: McGraw-Hill, Inc. 1967): 10-11. Basing his argument on Parsons, Thompson describes organizations (including schools and school districts), as exhibiting three distinct levels of responsibility and control : technical, managerial, and institutional.

expansion than in decline. Decline is more likely to be a situation of forced choices, decisions to cut back, while growth involves decisions which generally have less of a negative effect on the status quo.

The dependence of revenue on enrollment confounds and complicates these decision situations. The extent to which a school district's resources are dependent on enrollment is important in determining the financial constraints associated with changes in size.[1] To the extent that revenue is supplied by the local community rather than by the state, reductions in state aid are not as salient.

Enrollment decline is often associated with budgetary problems. Consequently, the inability to reduce expenditures in certain areas (particularly relatively non-discretionary costs) can further constrain decisions made in decline. These costs do not necessarily increase proportionately in growth, which can result in increased flexibility in budgetary decision making. Teacher salaries comprise one of the largest expenditure items over which school districts have varying degrees of control. The larger the proportion of tenured teachers, the more fixed the allocation is in terms of discretionary power. Increases in the percentage of tenured teachers represent decreases in discretionary power over budget allocations. Changes in teacher experience suggest reductions in budgetary flexibility among the decliners contrasted with increases among the growers.[2]

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[1]This is a study of Michigan school districts. State aid is determined on the basis of the unweighted number of students. Other things being equal, as the number of students decreases (increases), the amount of aid decreases (increases). However, in Michigan, when a school district's decline in enrollment exceeds the state average, it receives additional funds based on the percentage of enrollment decline.

[2]Teacher experience can be used as a proxy for the percentage of tenured teachers. The mean years of teacher experience is 9.49 in 1969-70 for the decliners. It increases by 0.97 and reaches 10.46 in 1972-73. In contrast, the mean years of teacher experience is 8.47 for the growers

Lag structures complicate the process of adaptation. There is reason to believe that the lag structures will tend to be more constraining for declining enrollment school districts than for increasing enrollment school districts. Personnel provide an example of this.[2] Once a teacher has signed a contract, the teacher cannot be terminated until the completion of the school year. However, if additional teachers (or any personnel) are needed, the school district can hire them at any time during the year (if the funds are available).

It is not the intention here to assert that school districts have not developed any strategies applicable to decline.[2] Decision rules employed in eliminating deficits to balance budgets (i.e. across the board cuts in funding, eliminating low priority expenditures, not implementing new programs, freezes on hiring and wage freezes) can provide guidelines for dealing with decline. However, there is a critical difference: these strategies are all specifically directed at cutting expenditures. Expenditures can be cut in growth or decline.

Three themes of organizational behavior. Currently, there are no general theories of growth and decline or general theories contrasting growth and decline. Consequently, it is not possible to test hypotheses

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in 1969-70. It is reduced by 0.63 to an average of 7.83 in 1972-73.

[1]The constraints of lag structures can vary. For example the Chicago Public Schools, when told that they could not hire any more teachers, developed a system in which teachers are hired as full-time substitutes. The subsitutes do not have contracts and can therefore be let go at any time. It is interesting that a system developed to adapt to increasing enrollment is so appropriate to declining enrollment and resources.

[2]Donald Gerwin, "A Process Model of Budgeting in a Public School System," Management Science 15 (March 1969): 338-361; Donald Gerwin, The Decision Process in an Urban School, (Madison: The University of Wisconsin Press, 1969); Wildavsky, The Politics; Charles Levine, "Organizational Decline and Cutback Management," Public Administration Review 38 (July/August 1978): 316-325.

derived from a general theory. This lack of a general theory forces the investigation to employ an inductive, exploratory approach. The empirical findings are used to reflect on the explanatory power of three orienting themes of organizational behavior (organismic or structural, strategic decision making, and routine decision making) for describing adaptations to the alternative conditions of growth and decline.

Organismic or structural theories of organizational growth emphasize the interdependence of size, shape (structure) and function.[1] According to these theories, as organizations grow, internal and external pressures attempting to destroy the organization force it to change its structure to survive. Growth up to a limit is determined or set by the structure. After that limit, the organization accomodates growth by a change in structure. Moreover, with changes in size, there is change in the relative emphasis placed on the functions of the organization.

In contrast, proponents of strategic decision making contend that as organizations expand, they develop new markets, and differentiate through the agglomeration of units.[2] Through the process of agglomeration, the structure of the organization changes. Decisions and adaptation are the result of determining the best alternative based on the consideration of pertinent information.

Routine decision making theorists, the third group, contend that

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[1] Peter M. Blau, "A Formal Theory of Differentiation in Organizations," American Sociological Review 35 (April 1970):201-206. Mason Haire, "Biological Models and Empirical Histories of the Growth of Organizations." in Modern Organization Theory, pp. 272-306. A Symposium of the Foundation for Research on Human Behavior Institute of Industrial Relations University of California Series. (New York: John Wiley & Sons, 1959).

[2] A.D. Chandler, Jr., Strategy and Structure, (Cambridge Ma.: MIT Press, 1962) and O. Williamson, Markets and Hierarchies: Analysis and Antitrust Implications, (New York: Free Press, 1975).

decisions are made primarily on the basis of past decisions (precedent and standard operating procedures).[1] Change occurs slowly, 'incrementally'. Increases in size (growth) do not result in changes in structure, unless there are extenuating circumstances.

Each of these themes posits different processes and structural effects of growth. The usefulness of these themes for predicting the budgetary decisions of school districts under the alternative conditions of growth and decline is limited for several reasons: 1) they do not explicitly deal with decline; 2) the majority of these works have focused on organizations operating in a market structure; and 3) the work tends to be based on cross-sectional data.

School districts provide a very specialized cluster of services which are not sold in a market situation. Productivity and efficiency are difficult to measure. Furthermore, their level of resources is not directly tied to the quality of the services they provide. Nor is it tied to the quantity or quality of services they could produce and sell. In contrast, the resources and survival of organizations in market situations are largely determined by the quantity and quality of goods or services they are able to produce and market.

School districts are subject to both legal constraints and public accountability. A school district cannot discontinue first grade instruction or substitute adult education because the number of first grade students has declined. There is some flexibility for decreasing the level of service

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[1]David Braybrooke and Charles Lindblom, A Strategy of Decision, (U.S.A.: The Free Press of Glencoe, 1963); John P. Crecine, "A Computer Simulation Model of Municipal Budgeting." Management Science 13 (1967): 786-815; Crecine, Governmental; Aaron Wildavsky, The Politics of the Budgetary Process, second ed., (Boston: Little, Brown and Company, 1974); International Encyclopedia of the Social Sciences, 1968 ed., s.v. "Budgeting as a Political Process" by Aaron Wildavsky.

provided (i.e. reduce the number of classes and teachers). However, this can only be done within certain limits and when the decline has reached a certain threshold.

School districts are distinct from, and cope with different constraints and conditions than organizations which exist in a market situation: they generally do not compete with other school districts for local revenue or students; they often have little control over many of the factors relevant to competition for state and federal funds; and they do not have the same freedom for decisions and behavior as organizations which operate in a market structure. Consequently, when school districts are faced with a situation of growth or decline, they have neither the mechanisms, nor the options, nor the incentives for adaptation which are generally present in free or quasi market organizations.

Analysis of organizations based on cross-sectional data[1] (examining the effects of larger size on organizational structure), can be misleading when one is attempting to understand the effects of a dynamic process. This common deficiency of examining organizations within a static framework is remedied through the use of longitudinal analysis.

Implications of these themes for organizational decline. Structural theories contend that decline presents a powerful constraint for

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[1]John H. Freeman and Michael T. Hannan, "Growth and Decline Processes in Organizations," American Sociological Review 40 (April 1975): 215-228; Freeman and Hannan discuss three reasons why cross-sectional data tends to lead to different inferences from longitudinal data: (1) The two types of data bases tend to omit different variables. (2) There are differences in the lag structures of certain variables, resulting in differences between the findings of cross-sectional and longitudinal analysis. (3) The failure of the assumption of equilibrium, the assumption which underlies cross-sectional analysis, results in error. Marshall Meyer, "Size and Structure of Organizations: A Causal Analysis," American Sociological Review 37 (August 1972):434-441. Meyer stresses the importance of using longitudinal data for examining change processes.

organizational adaptation. It is difficult to eliminate components which evolved in the process of expansion. The difficulties become particularly apparent when one considers that these theories often utilize a biological model.[1] Maintaining units, even in reduced form, requires considerable resources and limits the range of viable options for retrenchment.

Strategic decision making models posit that when markets disappear, the organization will find new markets. The units which met the needs of now obsolete markets will disappear. New units will be developed, or old ones will be modified to meet the new market situation. Thus, decreases in size should result in changes in both structure and function.

The implications of routine decision making for decline are not clear. The obverse of these theories would posit that decreases in size should not result in change in organizational structure and functional emphasis, except over extended periods of time. That is, the structures of organizations employing learned behavior rules and past decision criteria will remain relatively stable, changing incrementally.[2]

It is evident that organismic and routine decision making theories would both hypothesize minimal effects of decline on the broad structural adaptation of school districts (at least until a certain threshold of decline is reached). However, the rationale implicit in the hypotheses of little change distinguishes the two themes.

Organismic theories posit that structural change in declining organizations is inhibited by the difficulties of de-differentiation. In contrast, routine decision making theories would postulate a lack of adaptation as

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[1] Haire, "Biological Models."

[2] There is also the possibility that the decline in size will be so large that decisions cannot be made incrementally.

resulting from the tendency for decisions to be based on precedent. These differences suggest criteria for empirically assessing the degree to which the behavior of the declining enrollment school districts conforms with these themes. To the extent that there is substantial change under conditions of growth and little change under conditions of decline, organismic themes are viewed as appropriate for describing adaptation to decline. A situation of relatively no change under both conditions will be viewed as conforming with routine decision making theories.

RESEARCH DESIGN:

The study is a longitudinal analysis of Michigan school districts, grades kindergarten through twelve, which experienced a minimum of a five percent change in size, measured by enrollment, between 1969-70 and 1972-73. The sample is partitioned into subsamples of 107 growing enrollment and 30 declining enrollment school districts. Information was extracted from data tapes supplied by the Michigan State Department of Education: the Fourth Friday Reports (instruments to collect demographic information about the student body of each school and school district) and the Annual School District Financial Report.

T-tests are used to compare the two sets of school districts on the basis of characteristics which might affect budgetary behavior. Size and changes in size are examined within each set of districts and between them.

Rates of change in instructional[1] and non-instructional budgetary allocations are examined to ascertain where the most and least rapid changes in budget allocations are occurring. If budgetary decisions under the

[1]The categories of instruction which constitute the focus of the study are total instructional expenditures, teacher salaries, instructional supervisor salaries, other instructional salaries, and instructional materials and supplies.

alternative conditions of growth and decline conform with the criteria of maintaining a 'constant-share-of-the-budget' integral to theories of incremental budgeting, the rates of change in budget items should be similar to the rate of change in total district operating expenditures.

These rates of change are first evaluated relative to the rate of change in total district operating expenditures. Comparisons are then made within the sets of districts, between rates of change in various functions, followed by comparisons between growers and decliners on rates of change in allocations to specific functions. Rates of change which exceed the rate of growth in total district operating expenditures represent expansion of that activity or function. Conversely, rates of change which are smaller represent contraction.

Changes in the proportional budget allocations [1] to components of instruction and the major non-instructional functions of school districts are examined within each subsample to determine where and why shifts in relative budgetary stress are occurring in adapting to growth and decline in enrollment. Comparisons are then drawn between the two sets of school districts.

RESULTS:

Size and changes in size. The mean enrollments and the changes therein are presented in Table 1. The contracting school districts are much larger than expanding ones. [2] This size discrepancy, coupled with the tendency for decliners to be located in more urban areas, explains other differences in initial characteristics. Table 1 demonstrates that the absolute change

[1] Each of the budget allocations is considered as a proportion of the total district operating expenditures.

[2] T-tests confirm that the mean enrollments for the two groups are significantly different for each year of the study, at the 0.001 level.

in enrollment is considerably greater for the decliners than for the growers. However, on a proportional basis, the growers experienced a greater mean magnitude of change than the decliners (14.1 percent change versus 10.0 percent change).

The implications of these discrepancies in the magnitude of change in enrollment for adaptation are not obvious. If there is one threshold level of absolute change in size beyond which districts are forced to change, the decliners are more likely to reach that level and adaptations would be more prevalent among them. In contrast, if there is one threshold of relative change beyond which districts are forced to change, the growers will be more likely to achieve that level, and therefore adaptations would be more prevalent among the expanding school districts. Differing lag structures are anticipated to operate under the two conditions and for various subunits of the organization. These divergent lag structures may result in distinct threshold levels for the two groups, rendering the ramifications of the disparities in the average gross change and rates of change unclear.

It is obvious from Table 1, that consistent with national demographic trends, the decliners experience the largest magnitude of enrollment change in the lower grades while growers experience the largest magnitudes of enrollment change in the higher grades. Consequently, the instructional allocations are analyzed for the elementary (K-8) and secondary (9-12) levels separately and together. This suggests that growth effects will be more apparent in the secondary level allocations, while decline effects will be more apparent in the elementary allocations.

If a school district is experiencing decline in enrollment in some grades, but increases in enrollment in other grades, the administration could possibly shift some resources to meet the needs. The necessity to

cut back in absolute terms might not be as great as in a district experiencing enrollment decline in all grades. This is not to deny that there are constraints which impinge on the shifting of personnel and resources. However, the resistance to shifts in resources within the technical suborganization are expected to be less than the resistance to shifts of resources between levels of responsibility and control.

Rates of change in budget allocations. Table 2 presents the mean rates of change in both instructional and non-instructional budget items. The total district operating expenditures increase between 1969-70 and 1972-73, in both sets of districts. However, the average rate of increase for the growers is twice that of the decliners. The rates among the expanding districts range from 0.072 to 1.064 while those of the contracting districts range from 0.113 to 0.986.

The rates of change in instructional allocations are all positive, with those of the growers exceeding those of the decliners.[1] Within each set of districts, there is considerable diversity in rates of change between components of instruction. Allocations to instructional materials and supplies are characterized by the greatest rates of growth, under both conditions. This is substantively important, but it is necessary to recognize that the smaller size of these allocations renders large rates of change more easily evidenced.

There are discrepancies between the growers and decliners in the magnitudes of the rates of change. However, with the exception of elementary instructional supervisors, the two sets of districts exhibit similar patterns.

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[1] The mean dollar allocations to the various instructional categories of the declining school districts exceed those of the growing school districts as a result of the size disparities. Larger base allocations render it more difficult to achieve high rates of increase.

The relative rates of change in instructional allocations are generally consistent with where the changes in enrollment are occurring. As illustrated in Table 1, the growers are experiencing their greatest increases in enrollment in the secondary grades, while the decliners are remaining fairly stable in size in those grades. The rates of change which substantially exceed those for total district operating expenditures tend to be concentrated in the secondary level instructional allocations. In contrast, the enrollment decreases are primarily occurring in the elementary grades (smaller increases for the growers), and the rates of change in elementary level instructional allocations tend to be lower than those for total district operating expenditures.

The rates of change for non-instructional allocations are also all positive, with the exception of the decliners' health services. However, there is extensive variation both within and between sets of districts in their rates of change in non-instructional budgetary allocations. Consistent with the greater rate of change in total district operating expenditures, the growers' rates of change exceed those of the decliners for all budget items except for attendance and pupil transportation.

The growers' rates of change in non-instructional allocations exceed, often by large amounts, that of total district operating expenditures, with the exceptions of administration and attendance. In comparison, most of the decliners' rates of change which exceed the relative change in total district operating expenditures, are much closer to it.

Fixed charges and maintenance of plant, allocations over which the decision makers exercise relatively little discretion, are manifesting high rates of growth for both sets of school districts. The other allocations exhibiting vast amounts of growth among the growers are indicative of

expansion of activities or domain outside of the technical function of instruction (general fund capital outlay, community services, health services, and student services). The other expanding activities among the decliners (pupil transportation and attendance) suggest an increased concentration of resources to deal with the decline problems of moving students around (perhaps schools are being closed or desegregation mandates are more prevalent in the larger cities) and keeping track of them.

To summarize, there are similar patterns of rates of change in instructional allocations relative to that of total district operating expenditures under the alternative conditions of growth and decline. Relatively large versus small rates of change are consistent with the changes in size of enrollment. Both the growers and decliners are faced with rising relatively non-discretionary costs (fixed charges and maintenance of plant). The instructional allocations of the decliners are not increasing at as fast a rate as other budgetary allocations because of a necessity to meet other rising costs. In contrast, it appears that the grower's instructional allocations are not increasing as rapidly as some because of both increasing non-discretionary costs and an expansion of activities, peripheral to the technical function.

Changes in relative budgetary stress. Table 3 contains the gross changes in the proportional budget allocations to components of instruction and the major non-instructional functions of school districts. Gross changes do not account for many potentially relevant factors: initial size of the allocation,[1] change in revenue, etc. Assuming that inflation affects specific

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[1]Susan R. Ryzewic, "Growth and Decline in Michigan School Districts: Effects on Changes in the Releative Emphasis on the Technical Level of Responsiblity and Control," draft of Ph.D. dissertation, University of Chicago, 1981. Mean proportional allocations to instruction are extremely

expenditures and total district operating expenditures similarly, it should not confound gross changes in the proportional budget allocations.

The relative emphasis on total instruction decreased between 1969-70 and 1972-73 for both growing and declining enrollment districts. When the totals for grades K-12 are considered, the decliner's decrease exceeds that of the growers, while the decliners' decreases in total instruction (which includes special education, summer school adult education, community college, and unclassified instruction) are less than those of the growers. This inconsistency is because the relative budgetary stress on instructional activities peripheral to the regular K-12 instruction is increasing in the contracting districts, while it is declining slightly among the expanding districts.[1]

Changes in the proportional instructional allocations to total instruction, teacher salaries, and instructional supervisor salaries[2] tend to be

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similar for the two groups. The proportional investments to components of instruction of the two sets of school districts never differ by as much as 0.05, between the two groups. In most cases, the difference is less than 0.01. In both subsamples, total K-12 instructional allocations comprise, on average, more than two thirds of total district operating expenditures. Teacher salaries are the largest component of instructional expenditures, averaging more than fifty percent of a school district's total operating expenses. The mean proportional allocations for the other instructional componentsare quite small. Comparison of the mean proportional allocations to elementary versus secondary levels of instruction indicates the sizes of the allocations to the two are similar, with the exception of other instructional salaries. The secondary level allocation averages twice the size of the elementary level.

[1]Special Education, Summer School, Adult Education, Community College and Unclassified Instruction are the categories not included in the analysis. These categories of instruction are usually paid for with targeted or flush funds, rather than out of the general budget. Among the decliners, the proportional allocation to these categories of instruction (in the aggregate) has increased an average of 0.009, while among the growers there has been an average change of -0.000.

[2]The growers high rate of growth in elementary instructional supervisor salaries is because the small districts experienced extremely high rates of change. Furthermore, the small size of these allocations indicates that

consistent with where the school districts are experiencing changes in enrollment. Decline effects are evidenced at the elementary level, while growth effects are evidenced at the secondary level. Declines in the relative emphasis on elementary instruction generally account for the decreased total instructional allocations under both conditions. Elementary teacher salaries (which are tied quite closely to the number of students) are the largest source of decreases in proportional allocations. In contrast, most increases in allocations are at the secondary level and/or in categories less directly tied to students.

Both sets of districts are reducing their relative budgetary stress on instruction. Where are the increases occurring? Under both conditions, the largest increases are in fixed charges, with maintenance of plant expenditures (a relatively non-discretionary account) also increasing. Growers are also experiencing increases in allocations to secretarial and clerical salaries, while decliners are experiencing increases in pupil transportion. Thus, increases in the fixed and relatively nondiscretionary costs are yielding a smaller proportion of the budget allocated to instruction.

To summarize, rates of change in the dollar allocations to instruction are all positive, with those of the growers consistently larger than those of the decliners. There is considerable diversity in rates in change within each set of districts, between components and levels of instruction. The patterns of rates of change in instructional allocations relative to that of total district operating expenditures are similar for the two conditions. Large versus small rates of change in instructional allocations relative to total district operating expenditures are generally consistent with the

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that they can exhibit high growth rates without having much effect on the proportional allocation. Analogously, at the secondary level the larger growers exhibited high rates of growth.

changes in size of enrollment. Growers exhibit greater rates of expansion in more discretionary activities external to the technical function.

The rates of change in budget allocations reflect the relative expansion of non-discretionary accounts and contraction of instruction under both conditions. However, the growers are expanding other functions peripheral to the technical function at a high rate, while the decliners are not. These differential rates of expansion of activities result from a combination of multiple factors which distinguish expanding and contracting school districts (revenue, viable alternatives, expectations of individuals both internal and external to the organization, demands for facilities and services, etc.).

Both sets of districts are decreasing their proportional allocations to instruction, primarily because of increases in relatively non-discretionary costs. Consistent with where the changes in enrollment are occurring, decline effects are generally evidenced at the elementary level, while growth effects are evidenced at the secondary level.

CONCLUSIONS:

The changes in school district budgetary allocations under the alternative conditions of growth and decline are not completely supportive of any of the approaches considered. However, these decisions appear to be most consistent with hypotheses deduced from theories of strategic decision making.

Organismic theories posit shifts in organizational structure and function with growth. According to these theories, a decrease in the emphasis on instruction coupled with an increase in the emphasis on administration and communication would be expected with increases in size. They also contend that de-differentiation presents a powerful constraint on adaption to

decline. Very little change would be expected in the administration. However, reductions in the emphasis on instruction could lead to a larger relative emphasis on administration.

The growers' rate of growth in administrative expenses is slightly lower than their rate of growth in K-12 instructional expenses. Among the decliners, the growth rate in administrative expenses is comparable to that in K-12 instruction. Both the expanding and contracting school districts slightly decrease their proportional allocations to administration. However, the growers' decrease exceeds that of the decliners. This implies that decreases in proportional allocations to instruction are not a consequence of increasing proportional allocations to administration. It does not seem that the expanding school districts are committing a disproportionate share of their resources to communicative and administrative activities, as posited by organismic theories. The constraint of de-differentiation in decline is suggested.

Strategic decision making theories posit the expansion or agglomeration of units with growing markets and the reduction or elimination of units with contracting or obsolete markets. Accordingly, changes in instructional allocations should be considered relative to changes in size to assess whether the budgetary decision conform with theories of strategic decision making. The combination of: 1) the greater rates of growth in the dollar instructional allocations of the expanding districts; 2) the greater decrease in the relative instructional allocations of the decliners; 3) reductions in the relative elementary instructional allocations of both sets of districts; and 4) increases in the relative secondary instructional allocations suggest budgetary decisions which are consistent with these theories.

The assessment of congruence of these changes in relative emphasis with theories of incremental budgeting, necessitates their consideration relative to changes in expenditures (and revenue). If a school district's total expenditures or revenue increase by a certain quantity and it employs precedent and incremental budgeting rationale (specifically the constant-share-of-the-budget criteria), the investment in instruction should increase (or decrease) similarly. Changes in proportional allocations to instruction represent deviations from precedent. These discrepancies suggest inaccuracy in the theories of incremental budgeting for predicting interorganizational budgetary stress on instruction.

DIRECTIONS FOR FUTURE RESEARCH:

Changes in size can occur along a number of dimensions. Here, alternative conditions of change in size, measured by enrollment, were considered. Growth and decline can also be measured by changes in revenue. School district revenue is partially dependent on enrollment. Considering changes in both size dimensions in examining budgetary decisions should provide a more complete understanding of adaptations to school district expansion and contraction.

This analysis identified shifts in the relative budgetary emphasis on on various functions of school districts under conditions of change in size. However, it does not uncover either: 1) why the decision makers deviate from past patterns of relative emphasis or 2) the effects of these changes on the level or mix of educational services provided. Future efforts should focus on directly identifying both the reasons underlying the shifts in relative emphasis and their impact on the educational program.

Table 1 --Means and Standard Deviations of Size and Change in Size: Growers and Decliners

	Growers	Decliners
SIZE MEASURED BY MEMBERSHIP FOR STATE AID		
MSA_{69-70}	3871.6 (4263.2)[a]	8603.6 (5723.2)
MSA_{70-71}	4030.2 (4472.9)	8356.9 (5553.6)
MSA_{71-72}	4245.1 (4740.2)	8143.1 (5412.5)
MSA_{72-73}	4374.3 (4816.5)	7745.8 (5134.0)
Change in MSA	502.7 (612.8)	-857.8 (692.5)
Proportional Change in MSA	0.136 (0.071)	-0.097 (0.036)
SIZE MEASURED BY AVERAGE DAILY ATTENDANCE		
FAK1270	3786.8 (4166.9)	8293.9 (5463.2)
FAK1273	4277.6 (4713.0)	7441.2 (4876.7)
Change K-12	490.8 (603.3)	-852.7 (694.7)
Proportional Change K-12	0.141 (0.110)	-0.100 (0.037)
FAK870	2705.2 (3170.3)	5783.7 (3863.4)
FAK873	3003.0 (3413.3)	4991.2 (3369.0)
Change K-8	252.9 (322.9)	-792.6 (594.0)
Proportional Change K-8	0.113 (0.128)	-0.139 (0.042)
FA91270	1036.6 (1011.9)	2510.2 (1634.6)
FA91273	1274.5 (1309.6)	2450.0 (1564.9)
Change 9-12	237.9 (317.4)	-60.2 (198.7)
Proportional Change 9-12	0.221 (0.133)	-0.011 (0.085)
	N=107	N=30

[a]The number in parentheses is the standard deviation.

Table 2.--Rates of Change[a] in Dollar Allocations of Growers and Decliners

Budget Item	Growers		Decliners	
	Mean Rate of Change	S.D.	Mean Rate of Change	S.D.
INSTRUCTIONAL ALLOCATIONS[b]				
Total Expenditures				
Elementary	0.412	0.137	0.119	0.136
Secondary	0.519	0.237	0.251	0.129
K-12	0.457	0.140	0.186	0.108
Total	0.457	0.140	0.203	0.099
Teacher Salaries				
Elementary	0.361	0.227	0.093	0.117
Secondary	0.488	0.248	0.218	0.111
K-12	0.413	0.133	0.155	0.090
Instructional Supervisors				
Elementary	0.715	2.882	0.111	0.188
Secondary	0.548	0.429	0.373	0.358
K-12	0.481	0.279	0.222	0.179
Instructional Materials and Supplies				
Elementary	1.112	0.943	0.952	3.611
Secondary	1.180	0.871	0.595	0.677
K-12	1.094	0.743	0.585	1.125
NON-INSTRUCTIONAL ALLOCATIONS				
Administration	0.380	0.265	0.204	0.191
Attendance	0.167	1.338	0.311	1.053
Health Services	1.078	4.267	-0.160	0.408
Pupil Transportation Expense	0.539	0.412	0.959	1.792

Table 2 cont.-- Rates of Change in Dollar Allocations of Growers and Decliners

Budget Item	Growers		Decliners	
	Mean Rate of Change	S.D.	Mean Rate of Change	S.D.
Operation of Plant Expense	0.515	0.341	0.214	0.125
Maintenance of Plant Expense	0.959	0.913	0.308	0.438
Fixed Charges	1.507	1.721	0 719	0.423
General Fund Capital Oulay	3.458	15.460	0.245	1.233
Community Services	1.286	5.147	0.136	0.809
Student Services/ Revolving Fund	1.074	5.569	0.233	1.226
Secretarial & Clerical Salaries	0.609	0.436	0.247	0.301
Office Supplies	0.509	0.642	0.236	0.524
Total Non-Instructional	0.578	0.226	0.286	0.133
Total District Operating Expenditures	0.487	0.143	0.221	0.100
	N=107		N=30	

[a]Each of these changes is calculated:
$(X_{72-73} - X_{69-70})/X_{69-70}$

[b]The rates of change for Other Instructional Salaries are nonsensical as a result of zero's in the denominators. They are therefore omitted from this table.

[c]Account 1000, total instruction, includes many categories of instruction which are not considered in the analysis. For example, account 1000 includes special education, summer school, adult education, community college expenses, and the like.

Table 3.--Means and Standard Deviations of Change[a] in Proportional Budget Allocations: Growers and Decliners

Budget Item	Growers		Decliners	
	Mean Change	S.D.	Mean Change	S.D.
INSTRUCTIONAL ALLOCATIONS				
Total Expenditures				
Elementary	-0.020	0.046	-0.029	0.026
Secondary	0.006	0.045	0.009	0.023
K-12	-0.014	0.030	-0.021	0.030
Total	-0.015	0.023	-0.012	0.013
Teacher Salaries				
Elementary	-0.026	0.037	-0.029	0.023
Secondary	-0.002	0.038	0.000	0.018
K-12	-0.029	0.032	-0.029	0.029
Instructional Supervisors				
Elementary	-0.001	0.006	-0.003	0.006
Secondary	0.000	0.006	0.002	0.006
K-12	-0.001	0.008	0.000	0.007
Other Instructional Salaries				
Elementary	0.003	0.009	0.002	0.012
Secondary	0.000	0.010	0.002	0.011
K-12	0.003	0.014	0.004	0.020
Instructional Materials and Supplies				
Elementary	0.004	0.006	0.001	0.005
Secondary	0.005	0.007	0.003	0.005
K-12	0.009	0.011	0.004	0.008

Table 3 Cont.--Means and Standard Deviations of Change in Proportional Budget Allocations: Growers and Decliners

	Growers		Decliners	
Budget Item	Mean Change	S.D.	Mean Change	S.D.
NON-INSTRUCTIONAL ALLOCATIONS				
Administration	-0.004	0.007	-0.001	0.005
Attendance	0.000	0.001	0.000	0.002
Health Services	-0.000	0.001	-0.001	0.002
Pupil Transportation Expense	-0.000	0.016	0.002	0.005
Operation of Plant Expense	0.000	0.015	-0.001	0.008
Maintenance of Plant Expense	0.005	0.011	0.001	0.010
Fixed Charges	0.013	0.010	0.011	0.006
Secretarial & Clerical Salaries	0.001	0.007	0.000	0.001
Office Supplies	-0.000	0.001	-0.000	0.006
Total non-Instructional[b]	0.015	0.023	0.012	0.013
	N=107		N=30	

[a]Each change is calculated: $X_{72-73} - X_{69-70}$

[b]Total non-instructional is calculated (account 2799) - (account 1000).

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